

ADDITIONAL NOTES ON THE GENUS *LIPPIA*, XXI

Harold N. Moldenke

*LIPPIA* Houst.

Additional bibliography: Wittstein, Etymolog.-bot. Handwörterb., ed. 1, 292 (1852) and ed. 2, imp. 1, 252. 1856; Cuf., Bull. Jard. Bot. Brux. 32: Suppl. 790--792. 1962; Arachi, Pict. Present. Indian Fl. xxv. 1968; Wittstein, Etymolog.-bot. Handwörterb., ed. 2, imp. 2, 252. 1971; Huang, Pollen Fl. Taiwan 242 & 244, pl. 162, fig. 1--3. 1972; Wittstein, Etymolog.-bot. Handwörterb., ed. 2, imp. 3, 252. 1982; López-Palacios, Revist. Fac. Farm. Univ. Andes 23: 34. 1983; López-Palacios, Usos Med.Pl. Com. 76 & 207. 1984; Mold., Phytologia 56: 380 & 420--447 (1984) and 56: 465--488, 505--507, 510, & 512. 1985.

The synonymous name *Dipterocalyx* Cham. is derived from the Greek *δύς* (double), *πτερον* (wing), and *καλυξ* (calyx), in allusion to the winged calyx.

In a previous installment of these notes it was claimed that the *Lippia stoechas* of Briquet is an error for the mint *Lavandula stoechas* L., but it seems more likely that it refers, instead, to the *Lippia stoechas* of Martius which is a synonym of *Lippia sericea* Cham.

*LIPPIA* ABYSSINICA (Ctto & Dietr.) Cuf.

Additional synonymy: *Lantana polycephala* R. Br. in Salt, Voy. Abyss. 65 nom. nud. 1814.

Additional bibliography: Mold., Phytologia 56: 358 (1984) and 56: 465. 1985.

Cufodontis (1962) designates the type (holotype) of this species as a specimen taken from a cultivated plant in the Karlsruhe botanical garden grown from the seed of *Schimper 305* from Abyssinia. He lists the vernacular names "chesshie" and "dama-kasse", giving the distribution of the species as Ethiopia, Kenya, Uganda, Tanzania, Congo (?), Nyasaland, Angola (?), Gabon, and Nigeria.

Schumann (1900) erroneously reduces this taxon to *Lippia grandifolia* Hochst., a very similar closely related species.

*LIPPIA* SIDOIDES Cham.

Additional & emended bibliography: Bocq., Adansonia, ser. 1 [Baill., Rec. Obs. Bot.], 3: 244. 1863; Mold., Phytologia 48: 264. 1981.

Recent collectors describe this plant as a shrub, 0.8--4 m. tall, the leaves very aromatic, their blades membranous. Collectors have encountered the plant at the edges of cultivated areas, in cerrado, in caatinga, and in "beira de mata ciliar", in flower from March to May and in September. They record the vernacular name "estrepá cavalo". The Hatschbach collection, cited below, is a mixture with *Lantana radula* Sw.

The corollas are described as having been "white" on Hatschbach 42133, Héring 16003, and Héring & al. 1346, "whitish" on Pereira

484, and "yellow" on Héring & al. 532.

The Balansa 4624 distributed as *Lippia sidoides* actually is *L. salviaefolia* Cham.

Additional citations: BRAZIL: Distrito Federal: Héring 16003 (E--2978844, N); Héring, Paula, Mendonca, & Salles 532 (N), 1346 (Ld, N, N, N); Pereira 484 (N, W--2971674). Goiás: Hatschbach 42133 in part (N). Minas Gerais: Assis 221 (W--1932518). Rio Grande do Sul: F. J. Matos, Herb. Prisco Bezerra 8474 (F--1931272).

#### LIPPIA SOMALENSIS Vatke

Synonymy: *Lippia? somalensis* Vatke, Linnaea 43: 527. 1882. *Lantana somalensis* (Vatke) Engl. ex Cuf., Bull. Jard. Bot. Brux. 32: Suppl. 792. 1962.

Additional bibliography: Cuf., Bull. Jard. Bot. Brux. 32: Suppl. 792. 1962; Mold., Phytologia 48: 264. 1981.

#### LIPPIA STACHYOIDES Cham.

Additional bibliography: C. Muell. in Walp., Ann. Bot. Syst. 5: 707. 1860; Mold., Phytologia 48: 264. 1981.

Hering and his associates describe this plant as 80 cm. tall, the leaves ashy-gray, and the corollas white. They found it growing in cerrado, in flower in April.

Additional citations: BRAZIL: Distrito Federal: Héring, Filgueiras, Mendonca, & Pereira 6850 (N). Minas Gerais: W. R. Anderson 8658 (W--2755315).

#### LIPPIA SUBRACEMOSA Mansf.

Additional bibliography: Brenan, Ind. Kew. Suppl. 16: 166. 1981; Mold., Phytologia 48: 264, 1981.

#### LIPPIA SUBRACEMOSA var. HARLEVI Mold.

Additional bibliography: Brenan, Ind. Kew. Suppl. 16: 166. 1981; Mold., Phytologia 48: 264. 1981.

#### LIPPIA SUBSTRIGOSA Turcz.

Additional bibliography: F. C. Seymour, Phytol. Mem. 1: 244. 1980; Mold., Phytologia 48: 264--265 (1981), 52: 116 & 117 (1982), 56: 428 (1984), and 56: 473 & 479. 1985.

Recent collectors describe this plant as a very viscid shrub, 1.3--4 m. tall, or a small, weak tree, 3--8 m. tall, with resinous foliage. They have encountered it on grassy slopes, in wet thickets, in open pine, oak, or oak-pine forests, as well as in pine & *Liquidambar* forests and in association with *Coriaria thymifolia* and *Alnus ferruginea*, at 384--2400 m. altitude, in both flower and fruit from February to April, as well as in flower from November to January and in fruit in August and December. Vernacular names reported for the species are "chichicaste de venado", "citifume", "cutujuma", "laj-kiej". and "marillo".

The corollas are described as having been "cream"-color on Molina R. 13580, "yellow" on Molina R. 625 and Williams & Molina R. 23231, "pale-yellow" on Standley 56168, "yellowish" on Croat 47740 and Molina

R. & Molina 24822, "pale-yellow fading to white" on Skutch 1627, and "greenish-yellow" on Croat 46470 and Williams & al. 41265.

Material of *Lippia substrigosa* has often been misidentified and distributed in herbaria as *Lippia callicarpaeifolia* H.B.K. and *Lippia umbellata* Cav. On the other hand, the Kellerman 6293, distributed as *L. substrigosa*, actually is *L. myriocephala* Schlecht. & Cham., while Molina R. 3077 is *L. oxtphyllaria* (Donn. Sm.) Standl.

Additional citations: MEXICO: Chiapas: Bauml, Kinnach, & Sanchez-Mejorada 599 (W--2979543); Breedlove 9368 (Me--95038), 9476 (Me--96022), 23163 (Me--223716), 23952 (Me--217987), 24385 (Me--243762), 42815 (Me--226261); Croat 47740 (Ld); Matuda 2068 (W--1689664, W--2877781), 5149 (Me--85762); Miranda 5331 (Me--69657); Ton 1649 (Me--121347), 1905 (Me--121281). Oaxaca: Croat 46470 (Ld). GUATEMALA: Alta Verapaz: Throckheim 382 (W--74221, W--1322999), 8441 (W--576589, W--1322986), II.715 (W--860747). Copán: Pittier 1855 (W--578254). Escuintla: Ruano 809 (W--1405255). Guatemala: J. D. Smith 1888 (W--74219, W--1322989), 2006 (W--1322989); Wendland 114 (W--1284724). Huehuetenango: Skutch 1080 (W--1644043), 1627 (W--1644220); Williams, Molina R., & Williams 41265 (Mi). Quiché: Heyde & Lux 3024 (W--74218, W--1322996). Sacatepéquez: Molina R. & Molina 24822 (W--2924988). Santa Rosa: Heyde & Lux 4389 (W--246546, W--1322982). Sololá: Holway 152 (W--1322980), Kellerman 7484 (W--2442125), 7504 (W--2442690). Department undetermined: Heyde 488 (W--246266), 616 (W--246249); E. W. Nelson 3610 [Jacaltenango to San Martin] (W--252749); Schwabe s.n. [Volcan Pacaya, 31 de dic. 1976] (Me--220049); Tejada 252 [San Cristobal] (W--862396). HONDURAS: Comayagua: P. C. Standley 56168 (W--1409118); Williams & Molina R. 12560 (Me--86190). El Paraíso: Molina R. 625 (Me--86189), 7581 (W--2401389). Intibuca: Molina R. 6228 (W--2400810), 6521 (W--2400843). Morazán: Molina R. 13580 (W--2567630); Williams & Molina R. 12250 (Me--86188), 23231 (Me--125288); Zelaya 66 (Ld). Ocotepéque: Nelson, Romero, Rubio, & Pereira 4069 (Ld). EL SALVADOR: Ahuachapán: Pittier 2008 (W--578403). La Libertad/San Salvador: Calderon 476 (W--1151457); P. C. Standley 22945 (W--1138661). NICARAGUA: Matagalpa: Williams, Molina R., & Williams 23910 (W--2432566). MOUNTED CLIPPINGS & ILLUSTRATIONS: Gibson, Fieldiana Bot. 24 (9): 215, fig. 40. 1970 (Ld); Greenm., Field Mus. Publ. Bot. 2: 341. 1912 (W).

#### LIPPIA SUFFRUTICOSA (Griseb.) Kuntze

Additional bibliography: Mold., Phytologia 48: 265 (1981) and 56: 484. 1985.

Additional citations: ARGENTINA: Tucumán: Peirano 32825 (W).

#### LIPPIA TAYACAJANA var. SESSILIFLORA Mold.

Additional bibliography: Mold., Phytologia 48: 265. 1981.

The specimen cited below was incorrectly marked "holotype" in distribution.

Additional citations: PERU: Cajamarca: Hutchison & Wright 7025 (W--2502793--isotype).

#### LIPPIA TEGULIFERA Briq.

Additional bibliography: Mold., Phytologia 48: 265 (1981) and 56:

424. 1984.

The Briquet clipping cited below was incorrectly filed in the museum herbarium as "*Leiothrix tegulifera*". The Fiebrig collection was previously incorrectly cited as *Lippia arechavaletae* Mold.

Additional & emended citations: PARAGUAY: Fiebrig 6493 (W--1159378). MOUNTED ILLUSTRATIONS & CLIPPINGS: Briq., Ann. Conserv. Jard. Bot. Genev. 1/8: 309--310. 1904 (W); Troncoso, Darwiniana 12: 281, fig. 12 k--o. 1961 (Ld).

*LIPPIA TEGULIFERA* var. *OVATA* Briq.

Additional bibliography: Mold., Phytologia 48: 265. 1981.

Additional citations: PARAGUAY: *Bernardi 18760* (E--2978900).

*LIPPIA TEPICANA* Mold.

Additional bibliography: Mold., Phytologia 48: 265--266. 1981; Knobloch, Phytol. Mem. 6: 21. 1983; Mold., Phytologia 56: 360. 1984.

Nelson encountered this plant along roadsides, at 500--2500 feet altitude, in flower in March.

Material of this species has been misidentified and distributed in some herbaria as *Lantana canescens* H.B.K.

Additional citations: MEXICO: Jalisco: *E. W. Nelson 4131* (W--82065). Michoacán: *Arsène 3243* (Me--85381, Me--87665). Nayarit: *Edw. Palmer 1969* (W--305632--isotype).

*LIPPIA THYMOIDES* Mart. & Schau.

Additional bibliography: Brenan, Ind. Kew. Suppl. 16: 166. 1981; Mold., Phytologia 48: 266. 1981.

Recent collectors describe this plant as a branched, fragrant shrub, 1--2 m. tall, and have found it growing in campo rupestre, in "transition to caatinga", and in caatinga, in flower in May and in both flower and fruit in June. The corollas are said to have been "white" on *Mori & Boom 14248* and "lilac" on *Hatschbach 46406* and *Hatschbach & Kummrow 47858*.

The *Harley & al. 21292*, distributed as typical *L. thymoides*, actually is its var. *tonsilis* (Mold.) Mold.

Additional citations: BRAZIL: Bahia: *Harley, Renvoize, Erskine, Brighton, & Pinheiro in Harley 16813* (W--2791580), *16924* (W--2791589); *Hatschbach 46406* (Ld); *Hatschbach & Kummrow 47858* (Ld); *Mori & Boom 14248* (Ld, N).

*LIPPIA THYMOIDES* var. *MUCRONULATA* Mold.

Additional bibliography: Brenan, Ind. Kew. Suppl. 16: 166. 1981; Mold., Phytologia 48: 266. 1981.

*LIPPIA THYMOIDES* var. *TONSILIS* (Mold.) Mold.

Additional synonymy: *Lippia thymifolia* [Mart. & Schau.] in herb.

Additional bibliography: Brenan, Ind. Kew. Suppl. 16: 166. 1981; Mold., Phytologia 48: 266. 1981.

Recent collectors describe this plant as a pungently aromatic shrub, 1--2 m. tall, erect, the branches many, ascending, the leaves coriaceous, mid-green above, paler beneath, pungently scented, the bracts pale-green, and the flowers much visited by honeybees. They

have found it growing on campo rupestre, in caatinga, and among campos gerais vegetation, at 950--980 m. altitude, in flower in February, April, and June. The corollas are described as having been "lilac with an orange-yellow throat" on Harley 21242, "bluish-purple with an orange throat" on Harley 22946, "whitish" or "alva com pequena mancha acinzentada" on Carvalho & al. 1849, and "the tube white" and "porção plana violáceo-pálida" on Carvalho & Plowman 1544.

Material of this variety has been distributed in some herbaria as typical *Lippia thymoides* Mart. & Schau.

Additional citations: BRAZIL: Bahia: Carvalho, Lauenberger, & Silva 1849 (Ld); Carvalho & Plowman 1544 (Ld); Harley, Bromley, Carvalho, Hage, & Brito in Harley 21292 (W--2965515); Harley, Bromley, Carvalho, Nunes, Hage, & Santos in Harley 22946 (W--2962834); Harley, Renvoize, Erskine, Brighton, & Pinheiro in Harley 15625 (W--2791574); Hatschbach 44192 (Ld).

#### LIPPIA TORRESII Standl.

Additional bibliography: Mold., Phytologia 48: 266 (1981) and 56: 428. 1984.

Recent collectors describe this plant as a shrub, 3 m. tall, or a small to large canopy tree, 5--13 m. tall, the trunk to 35 cm. in diameter, the wood very hard, the sapwood light, the heartwood dark, the young stems square in cross-section, the leaves slightly thickened, becoming very large, rugose and scabrous on the upper surface, with a mint-like aroma, the peduncle, pedicels, and bracts pale-green, the flowers "issuing from roseate-like heads", 4-merous. They have encountered it in oak woodlands, cleared oak forests, on brushy slopes and volcano slopes, in moist forests and in the semi-shade at the edge of thickets, and in potreros, at 850--2000 m. altitude, in flower from December to April, as well as in October, and in fruit in January and March. Smith refers to it as "common in wet forests".

The corollas are described as having been "yellow" on Allen 1481 and Skutch 4191, "light-yellow" on Stein 1272, "pale yellowish-green" on Standley 36733, and "greenish-white, the tube lemon-yellow fading to cream-yellow" on Smith P.C.111.

The vernacular names, "caragra", "caragre", and "caragua", have been recorded for the species.

Material of *Lippia torresii* has been misidentified and distributed in some herbaria as *L. callicarpaeifolia* H.B.K. and *L. umbellata* Cav. On the other hand, the Davidson 793, distributed as *L. torresii*, actually is *L. oxyphyllaria* (Donn. Sm.) Standl.

Additional citations: MEXICO: Veracruz: Purpus 8206 (W--1206070, W--1206080). COSTA RICA: Alajuela: A. Smith P.2274 (W--2955866), P.C.111 (W--1689040); Standley & Torres R. 47937 (W--1305352). Car-tago: Liebmann 11260 (W--1269914); P. C. Standley 35733 (W--1227209). San José: Little 6015 [U. S. Dept. Agr. For. Serv. 95036] (W--1842325); Skutch 4191 (W--1644735); P. C. Standley 43519 (W--1253282); Tonduz 1700 (W--1322997), 1700b (W--1322998), 7843 (W--1322988), 11841 (Ld, Ld, W--333959, W--358730, W--1322987). PANAMA:

Chiriquí: P. H. Allen 1481 (W--1820090); Pittier 5387 (W--715608); Stein 1272 (Ld); Stern & Chambers 78 [Yale Sch. Forest. wood no. 51589] (W--2301298).

#### LIPPIA TRACHYPHYLLA Briq.

Additional bibliography: Mold., Phytologia 48: 266 (1981) and 50: 248. 1982.

Recent collectors describe this plant as a decumbent herb to 40 cm. tall and have found it growing on rocky slopes with a few small shrubs, at 2900--3300 m. altitude, in flower in March. The corollas are said to have been "deep yellow" on Beck 6836 and "dark-purple" on Beck 6164a.

Additional citations: BOLIVIA: Cochabamba: S. G. Beck 6836 (Ld). Potosí: S. G. Beck 6164a (Lp).

#### LIPPIA TRISTIS Briq.

Additional bibliography: Mold., Phytologia 48: 266--267 (1981) and 56: 425. 1984.

The Pederson 6108, distributed as *L. tristis*, actually is *L. asperrima* f. *angustifolia* Mold.

#### LIPPIA TURBINATA Griseb.

Additional synonymy: *Lippia turvinata* Gris. ex Lindquist, Royas Rep. Argent. Zon. Limit. 89 sphalm. 1982.

Additional bibliography: Hubert, Trav. Lab. Mat. Med. Fac. Pharm. 13: [Verb. Util. Mat. Med.] 44. 1921; Mold., Phytologia 48: 267. 1981; Lindquist, Royas Rep. Argent. Zon. Limit. 89. 1982; Reis & Lipp, New Pl. Sources Drugs 253. 1982; Mold., Phytologia 56: 446. 1984.

Reis & Lipp (1982) cite T. Meyer 3453 & 8337 from Argentina, noting that the collector refers to the plant as medicinal. Lindquist (1982) reports it as attacked by the fungus *Prospodium lippiae*.

Material of *Lippia turbinata* has been misidentified and distributed in some herbaria as *Lippia nodiflora* (L.) Michx.

Additional citations: ARGENTINA: Catamarca: Brizuela s.n. [12. III.1947] (W--2911931). San Luis: Jameson s.n. (Ws).

#### LIPPIA TURBINATA f. MAGNIFOLIA Mold.

Additional bibliography: Mold., Phytologia 48: 267. 1981.

Recent collectors have encountered this plant at 1700 m. altitude. The corollas are described as having been "lilac" in color on Cabrera & al. 13912.

Additional citations: ARGENTINA: Catamarca: Brizuela 684 (W--2911926). Jujuy: Cabrera, Chicchi, & Hernández 13912 (W--2920226).

#### LIPPIA TURNERIFOLIA Cham.

Additional bibliography: Angely, S. Am. Bot. Bibl. 2: 670. 1980; Mold., Phytologia 48: 267--268 (1981), 50: 249 & 250 (1982), and 56: 425. 1984.

Recent collectors refer to this plant as an herb, bearing a basal xylopodium, and have encountered it on campo limpo seco as well as on ordinary campo, in flower in September and October. The

corollas are described as having been "yellow" on the Casas & Molero and Kummrow collections cited below.

Additional citations: BRAZIL: Paraná: Kummrow 2350 (Ld), 2441 (Ld); Oliveira 164 (Ld). PARAGUAY: Casas & Molero FC.3934 (N).

*LIPPIA TURNERIFOLIA* var. *ANGUSTA* Kuntze

Additional bibliography: Mold., Phytologia 48: 268 (1981), 50: 249 & 250 (1982), and 56: 425. 1984.

Pederson encountered this plant in dry sandy grasslands and reports the corolla as "yellow" when fresh.

Material of this variety has been misidentified and distributed in some herbaria as *L. asperrima* Cham. On the other hand, the *Schizini* 4307, distributed as *L. turnerifolia* var. *angusta*, actually is *L. asperrima* f. *angustifolia* Mold.

Additional citations: ARGENTINA: Corrientes: Pederson 6424 (w--2510714).

*LIPPIA TURNERIFOLIA* var. *SESSILIFOLIA* Mold.

Additional bibliography: Angely, S. Am. Bot. Bibl. 2: 670. 1980; Mold., Phytologia 48: 268. 1981.

*LIPPIA UKAMBENSIS* Vatke

Additional bibliography: Mold., Phytologia 48: 268. 1981; Blundell, Wild Flow. Kenya 109, 142, & 158. 1982.

*LIPPIA UMBELLATA* Cav.

Additional & emended bibliography: Walp., Repert. Bot. Syst. 6: 689. 1847; Briq. in Engl. & Prahtl, Nat. Pflanzenfam., ed. 1, 4 (3a): 152. 1895; Briq., Bull. Herb. Boiss. 4: 34. 1896; Millsp., Field Co.umb. Mus. Publ. 1: 387. 1898; Mold., Phytologia 48: 258, 266, & 268 (1981), 50: 241 & 242 (1982), 52: 117 (1982), 56: 427--429, 431, 432, 434, & 447 (1984), and 56: 473, 475, 479, & 482. 1985.

Recent collectors describe this plant as a shrub, treelet, or tree, 3--11 m. tall, with a menthol fragrance, the stems long and slender, the leaves slightly aromatic, and the bracts yellowish-white or cream-color, the fruit dry. They have encountered it in low forests, oak woods or forests, , thickets, and wet soil in limestone matorral, at 80--2800 m. altitude, in both flower and fruit from December to February, as well as May, and in flower also in July. Ventura refers to it as "rare" in Distrito Federal, Mexico, while Wendt and his associates found it only "infrequent in limestone soil of woodland cafetal". Sorensen encountered it "in quite open pine-oak-alder cloud forest with grassy or shrubby (*Salvia* spp.) understory and many epiphytes on a flat wooded plateau" in Jalisco, while Iltis and his associates report it from "mature partially cutover mesic to dry *Pinus-Quercus-Abies religiosa* cloud-forest to 40 m. tall with a dense understory of 2--4 m. tall composite shrubs, *Buddleia*, *Lupinus*, and *Eryngium* in the same Mexican state.

The corollas are said to have been "yellow" on Gutiérrez G. 92, Hinton 12791, Rohweder 3354, and Ventura A. 3570, "greenish-yellow"

on Hinton 15706, and "yellow-green to white" on Hinton 11910.

Millspaugh (1898) cites Gaumer 871 & 971 from Yucatán and Heyde & Lux 4389 from Guatemala, but the former actually represent *L. yucatanana* Loes. and the latter is *L. substriqosa* Turcz.

Material of *Lippia umbellata* has been misidentified and distributed in some herbaria as *L. callicarpaeifolia* H.B.K., *L. curtisiana* Mold., *L. hypoleia* Briq., *L. myriocephala* Schlecht. & Cham., and even as *Hyptis* sp.

On the other hand, the Blake 7405 and Rosas R. 114, distributed as *Lippia umbellata*, actually are *L. callicarpaeifolia* H.B.K., while Calderon 14, Heyde & Lux 4385, and Standley 19395, 19860, 19958, 20222, 22181, 22677, & 23262 are *L. cardiostegia* Benth., Arsène 5293, Gentry 7222, Kraus 286, and Morales Ruano 851 are *L. chiapasensis* Loes., Edw. Palmer 496 is *L. durangensis* Mold., Ortega 5101 is *L. jaliscana* Mold., Welch & al. 107 is *L. myriocephala* Schlecht. & Cham., Balls 5489 is *L. myriocephala* var. *hypoleia* (Briq.) Mold., Maurice 693 and Pittier 3336 & 10632 are *L. oxyphyllaria* (Donn. Sm.) Standl., Chiang, González Medrano, & Ramos A. 602, Dehesa 1603, Ernst 2446, 2476, & 2558, Freeland & Spetzman 127, González Medrano & al. 5385, Hinton 11717, Iltis, Guzmán M., & Nee 1144, Langlassé 744, Langman 3148, Narvaez Montes & Salazar 61 & 308, Nelson 2071, Ortega 4452, 4744, 4999, 5004, & 5707, Edw. Palmer 479 & 1199, Rzedowski 19280, and C. L. Smith 225 are *L. pringlei* Briq., Heyde & Lux 488, 616, 3024, & 4389, J. D. Smith 1888, and Throckheim 8441 are *L. substriqosa*, and Pittier 5387 and Tonduz 1700, 1700b, 7843, & 11841 are *L. torresii* Standl.

Additional citations: MEXICO: Distrito Federal: Bourgeau 968 (W--82066); Gold 253 (Me--182495), 254 (Me--180165), s.n. [Oct. 22, 1950] (Me--57080); Lyonnet 457 (Me--239136, Me--239173, W--1034256); Miranda 1241 (Me--73561); Russell & Souviron 184 (W--1494291); Ventura A. 2370 (Me--238220), 3570 (Me--299853), 3601 (Me--249315). Jalisco: Iltis, Sorensen, Schatz, Matekeitis, & Kowal 2445a (Ld); Sorensen 7985 (Mi). México: Gutierrez G. 92 (Me--200422, W--2930485); Matuda 18690 (Me--54658), 25831 (Me--78681, Me--108905); Paray 1349 (Me--61712); Pringle 11089 (W--1586762); Purpus 1694 (W--570511); Rzedowski 28722 (W--2923869), 32771 (Me--192006). Michoacán: Hinton 11910 (W--1821760), 12791 (W--1891011), 15706 (W--1978267); E. W. Nelson 6564 (W--399153); Pringle 3948 (W--82064). Morelos: Bruff 1164 (Me--57708); Lyonnet 2838 (Me--288289, Me--288290); Matuda 37524 (Me--92569); Pringle 7714 (W--342691), 11090 (W--460472). Oaxaca: Wendt, Villalobos C., Olmstead, & Vavarrete 2894 (Ld). Puebla: C. C. Deam s.n. [Ixtaccihautl, Jan. 5, 1899] (W--398960). Sinaloa: Rose, Standley, & Russell 14798 (W--637678). State undetermined: Berlandier 1028 [Cord. de Guahilepel] (W--1084520). GUATEMALA: El Petén: Contreras 9641 (Me--191950). Department undetermined: Holway 554 [Volcan de Aqual] (W--862653). EL SALVADOR: San Salvador: Rohweder 3354 (E--2681473).

#### LIPPIA VELUTINA Schau.

Additional & emended bibliography: Bocq., *Adansonia*, ser. 1 [Baill., Rec. Obs. Bot.], 3: 245. 1863; Mold., *Phytologia* 48: 268.



1981.

Heringer and his associates refer to this plant as a shrub, 2 m. tall, with "rose"-colored corollas, and found it growing at the edge of mata ciliar. in anthesis in March.

Additional citations: BRAZIL: Goias: Heringer, Salles, & Silva 17036 (N).

*LIPPIA VERNONIOIDES* Cham.

Additional & emended bibliography: Walp., Repert. Bot. Syst. 6: 689. 1847; S. Moore, Trans. Linn. Soc. Lond. Bot., ser. 2, 4: 435 & 436. 1895; Brenan, Ind. Kew. Suppl. 16: 166. 1981; Mold., Phytologia 48: 268--269 (1981) and 50: 262. 1982.

Rusby (1900) cites his nos. 926 & 927 from Bolivia, but both these collections actually represent var. *attenuata* (Mart.) Mold.

*LIPPIA VERNONIOIDES* var. *ATTENUATA* (Mart.) Mold.

Additional synonymy: *Lippia verbenoides* Cham. ex Mold., Phytologia 50: 262 in syn. 1982.

Additional bibliography: Mold., Phytologia 48: 269 (1981) and 50: 262. 1982.

Recent collectors describe this plant as 1--2 m. tall and have found it in anthesis in April. The corollas are said to have been "white" on the Krapovickas & Schinini collection cited below.

Additional citations: BOLIVIA: El Beni: S. G. Beck 6925 (Ld); Krapovickas & Schinini 34798 (N).

*LIPPIA VILLAFLORIDANA* Kuntze

Additional bibliography: Mold., Phytologia 48: 269. 1981.

Additional citations: MOUNTED ILLUSTRATIONS: Troncoso in Burkart, Fl. Ilustr. Entre Rios 5: 276, fig. 130 a--1. 1979 (Ld).

*LIPPIA VINOSA* Mold.

Additional bibliography: Brenan, Ind. Kew. Suppl. 16: 166. 1981; Mold., Phytologia 48: 269. 1981.

*LIPPIA WHYTEI* Mold.

Additional bibliography: White & Angus, For. Fl. N. Rhodes. 370. 1962; Mold., Phytologia 48: 269--270 (1981) and 56: 447. 1984.

Phillips describes this plant as a bush, 5--6 feet tall, with "white" corollas, and encountered it along roadsides, at 4000 feet altitude, in flower in April, confusing it with the related *L. javanica* (Burm. f.) Spreng.

Additional citations: MALAWI: Phillips 2009 (Ba--379158).

*LIPPIA WILMSII* H. H. W. Pearson

Additional bibliography: Mold., Phytologia 48: 270. 1981.

Phillips encountered this plant in *Brachystegia* woodlands, at 4400 feet altitude, in anthesis in February, the corollas "white".

Additional citations: MALAWI: Phillips 3228 (Ba--378166).

*LIPPIA YUCATANA* Loes.

Additional bibliography: Mold., *Phytologia* 48: 270 (1981) and 52: 116. 1982.

The Bourgeau collection, cited below, was previously cited by me as representing *L. umbellata* Cav., which would appear more likely in view of the area in which it was collected, but the sheet cited below certainly bears a most striking resemblance to *L. yucatanana*.

Additional citations: MEXICO: Distrito Federal: Bourgeau 968 (W--2546645). Yucatán: Gaumer 971 (W--1267189), 24176 (W--1268257); Gaumer & sons 23627 (W--1267909).

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A SIXTH SUMMARY OF THE VERBENACEAE, AVICENNIACEAE, STILBACEAE,  
CHLOANTHACEAE, SYMPHOREMACEAE, NYCTANTHACEAE, AND ERIOCAULACEAE  
OF THE WORLD AS TO VALID TAXA, GEOGRAPHIC DISTRIBUTION AND  
SYNONYMY. SUPPLEMENT 4

Harold N. Moldenke

Since the last previous supplement to this work was issued (*Phytologia* 54: 228--245. 1983) no less than 3,35 new herbarium specimens have been examined in these groups, bringing the total examined and annotated to date to 268,065. These specimens, along with continued library research, have brought to light many additions and emendations to the known geographic distribution of the members of these plant families, as well as many new valid and invalid scientific names, including orthographic and accreditation variants.

It should also be noted here that recent studies by Marais at the Royal Botanic Gardens, Kew, show that the genera *Asepalum* Marais and *Cyclocheilon* Oliv. should be segregated as the new family, *Cyclocheilaceae* Marais and the genus *Nesogenes* A. DC. should be separated as the family *Nesogenaceae* Marais. Also, on etymological and grammatical grounds the family name, *Symphoremaceae*, should be changed to *Symphoremataceae*.

For substantiation of the new records and for citation of the places and dates of publication of the new names, see my papers on the individual genera involved, mostly in the present journal.

I. Geographic distribution additions and emendations:

UNITED STATES OF AMERICA:

Connecticut:

*Eriocaulon pellucidum* f. *clausenii* Mold. [New London County]\*

New York:

*Verbena hastata* f. *rosea* Cheney [Sullivan County]

New Jersey:

*Eriocaulon pellucidum* Michx. [Warren County]

Pennsylvania:

*Verbena simplex* Lehm. [Huntington County]